

SURVIVAL, FERTILIZATION, AND CLEAVAGE RATE OF FROZEN – THAWED OOCYTES USING A NEW MODIFIED SLOW-FREEZE PROTOCOL – PRELIMINARY RESULTS.

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Objective: The objective of this study is to describe the survival rate, fertilization rate, and cleavage rate of a new slow-freeze technique for human oocytes.

Design: Oocyte freeze/thaw protocols are designed to minimize the damage that occurs from intracellular ice formation and high solute concentration (solution effect). The present study examines the rates of oocyte thaw survival, fertilization, and cleavage in a group of patients undergoing IVF with oocyte cryopreservation. The study is being conducted under IRB approval.

Patients: Inclusion criteria include women age < 35 years with day 3 FSH <10 are undergoing controlled ovarian hyperstimulation and IVF-ET. MII oocytes were selected for cryopreservation using a modified slow-freeze protocol with PrOH as a cryoprotectant agent.

Results: An interim analysis was conducted in the first 34 cycles using frozen-thawed oocytes. 6 oocytes were thawed in each cycle. From a total of 217 frozen-thawed oocytes, the survival rate was 91.7% (199/217). ICSI was performed on 195 oocytes resulting in a 90.3% (176/195) fertilization rate and an 83.5% (147/176) cleavage rate. The total of 91% (31/34) of cycles resulted in embryo transfer using embryos derived from frozen oocytes. Preliminary outcomes has yield in 18 clinical pregnancies (58.1%) with 6 healthy live births to date.

Conclusion: The goal of this study is to evaluate a novel protocol and technique that can lead to an improved method for oocyte cryopreservation. Interim analysis of outcomes in initial 34 frozen-thawed oocyte cycles using a modified slow-freeze/fast-thaw protocol appears to yield outcome that are as good as those achieved in our 2006 ICSI and embryo freezing programs. Further study of a larger patient population is currently underway to assess the efficacy and safety of this new slow-rate oocyte freezing protocol.